

GRIDWALL

curtainwalls

SERIES A-100

SERIES B-100

SERIES C-200

SERIES D-100

An innovation in curtain wall design, GRIDWALL is engineered as a perfect watershed not requiring the use of glazing or caulking compounds. A proven system of drainage control eliminates any possibility of water leakage should water penetrate Vinyl gaskets retaining the glass and spandrel panels. The numerous series contained in this manual illustrate the tremendous scope and versatility of GRIDWALL. Each series is designed to meet specific functional requirements with painstaking attention devoted to maintaining the esthetic sight lines of flush glass-to-mullion profiles so that even with vented sash GRIDWALL has that fixed glass look.

A1A. 77 FILE

GRIDWALL SERIES A-100 FOR AIR-CONDITIONED BUILDINGS —

This series achieves the beauty of a fixed glass curtain wall, yet all sash slide horizontally in either direction, permitting window-cleaning from the interior of the building. Accommodates glass to 1/4" in thickness.

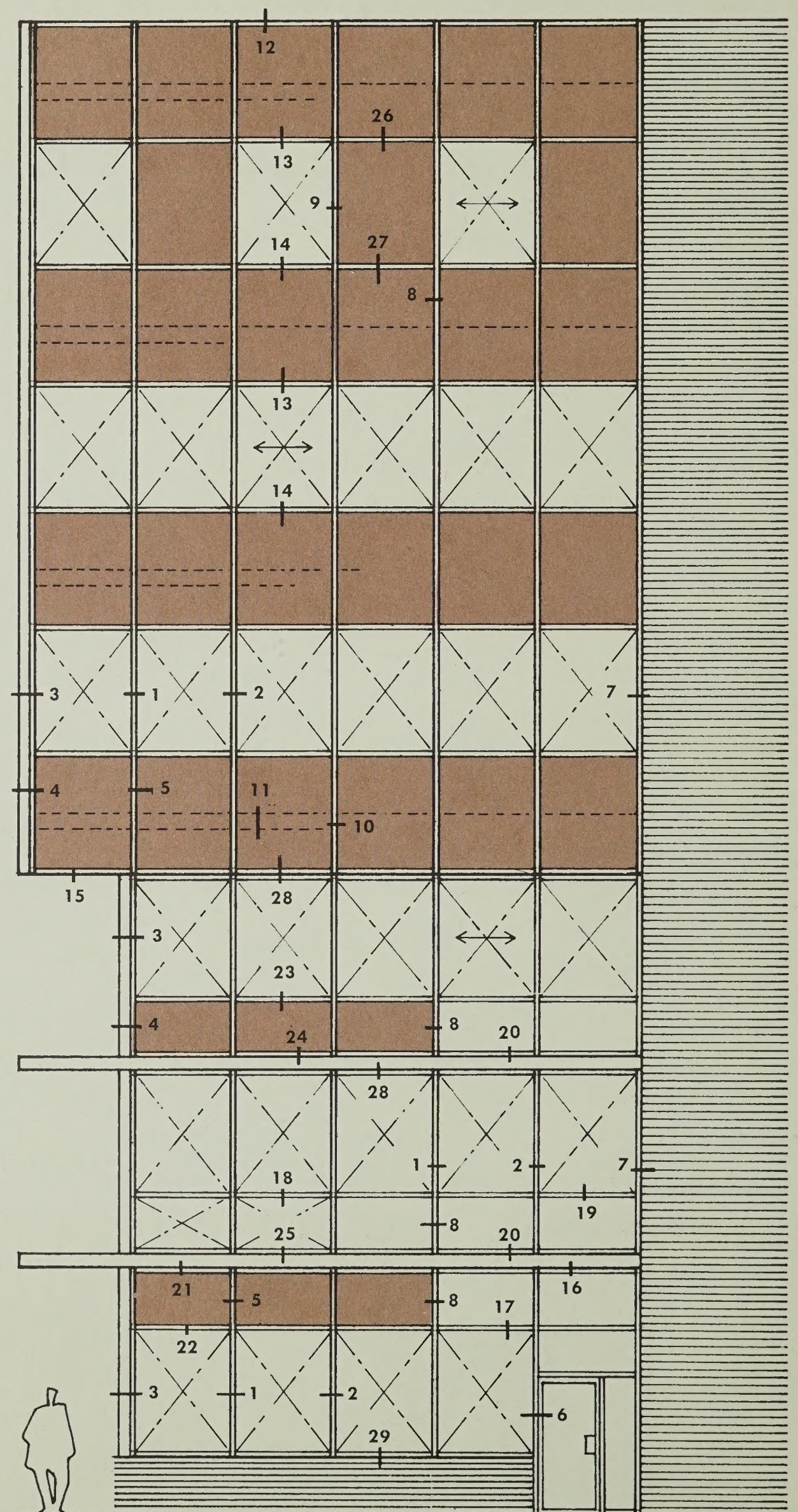
The sash stiles are concealed between the split sections of the mullion. No sash or moldings protrude beyond the side face of the mullion to mar the simplicity of its rectangular profile at glass or spandrel panels. Sash are operated with special tool by window cleaner only.

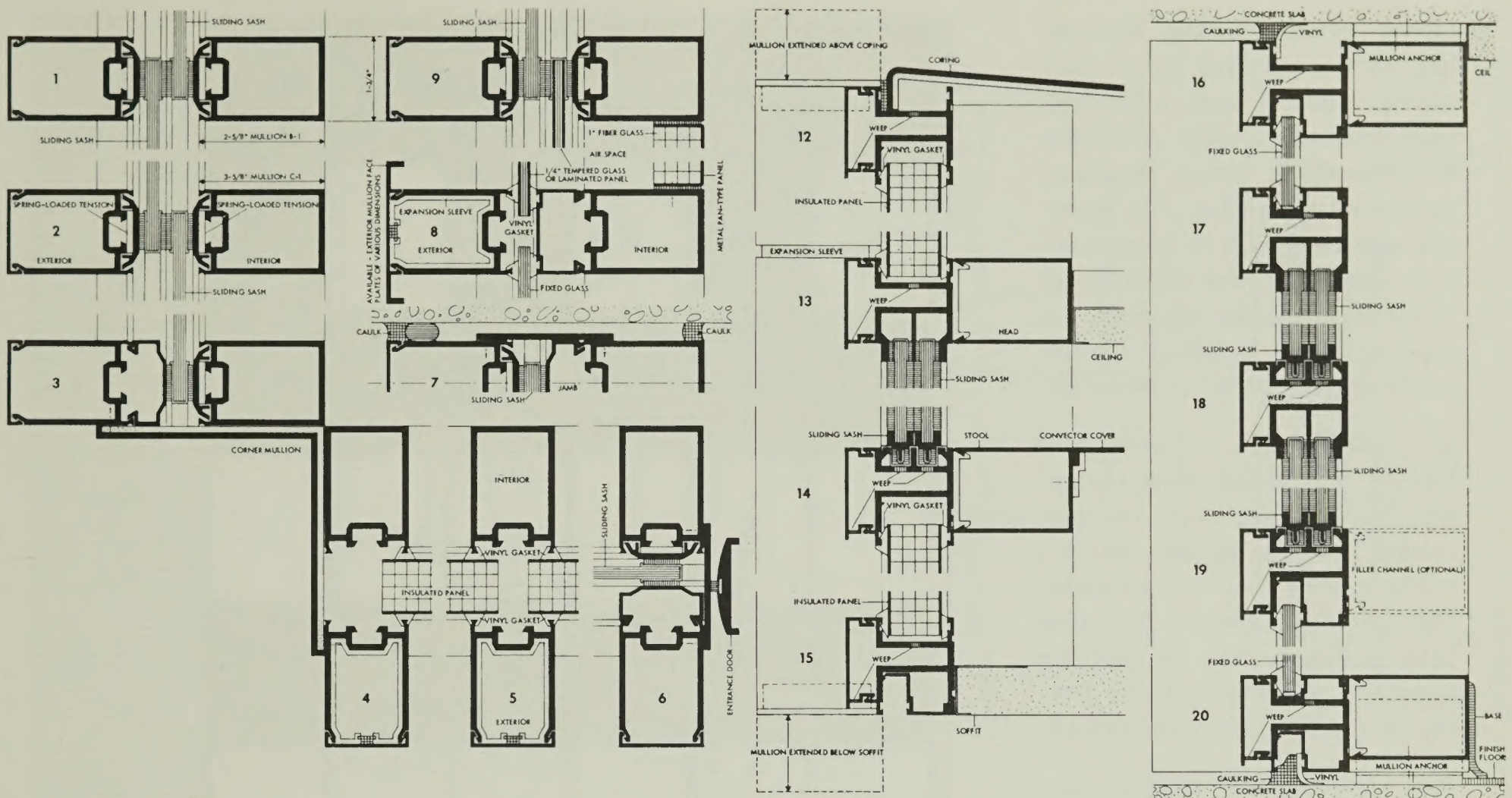
The exclusive split mullion construction of GRIDWALL provides a thermal barrier in the grid framing, insuring against interior condensation.

Weathertight, GRIDWALL is engineered as a perfect watershed, not requiring the use of any glazing or caulking compounds, eliminating all possibility of leakage even should water penetrate the vinyl gaskets retaining the glass and spandrel panels.

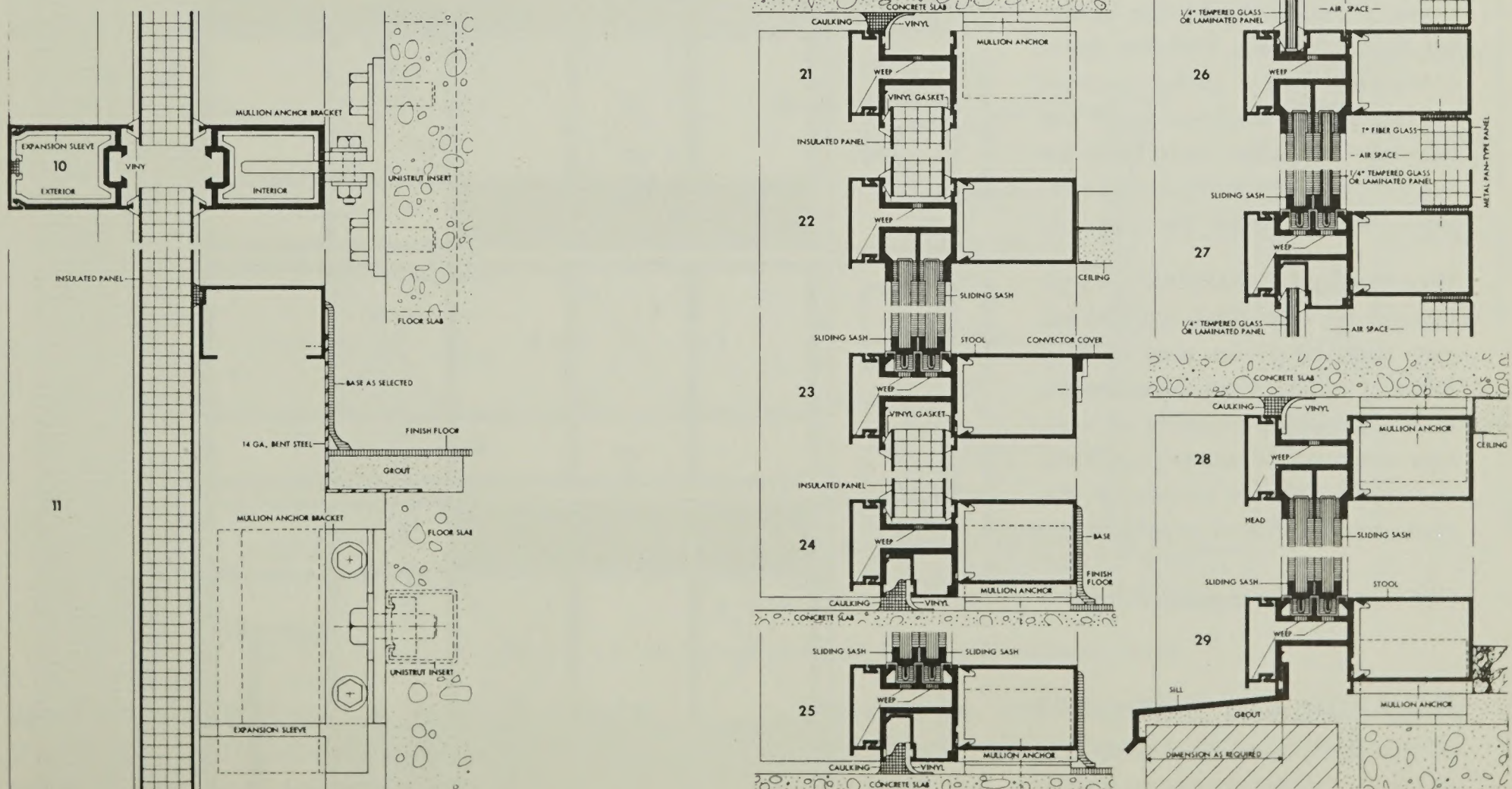
See page 12 for specifications.

ELEVATION $1/8'' = 1'0''$
All details are keyed to the
section numbers shown here





SERIES A-200 ACCOMMODATES INSULATING GLASS UP TO 1/2" IN THICKNESS. DETAILS SIMILAR TO SERIES A-100 — AVAILABLE ON REQUEST.



SERIES B-100 provides alternating lites of fixed glass and sliding sash. The sash roll on ball bearings and operate with ease horizontally in either direction, permitting ventilation with manually operated sash of large modular dimension and allowing all windows to be cleaned from the interior of the building. Accommodates glass to 1/4" in thickness.

This series also achieves the beauty of a fixed glass curtain wall because the sash are concealed between the split sections of the mullion. No sash or moldings protrude beyond the side face of the mullion to mar the simplicity of its rectangular profile at glass or spandrel panels.

The exclusive split mullion construction of GRIDWALL provides a thermal barrier in the grid framing, insuring insulation against condensation.

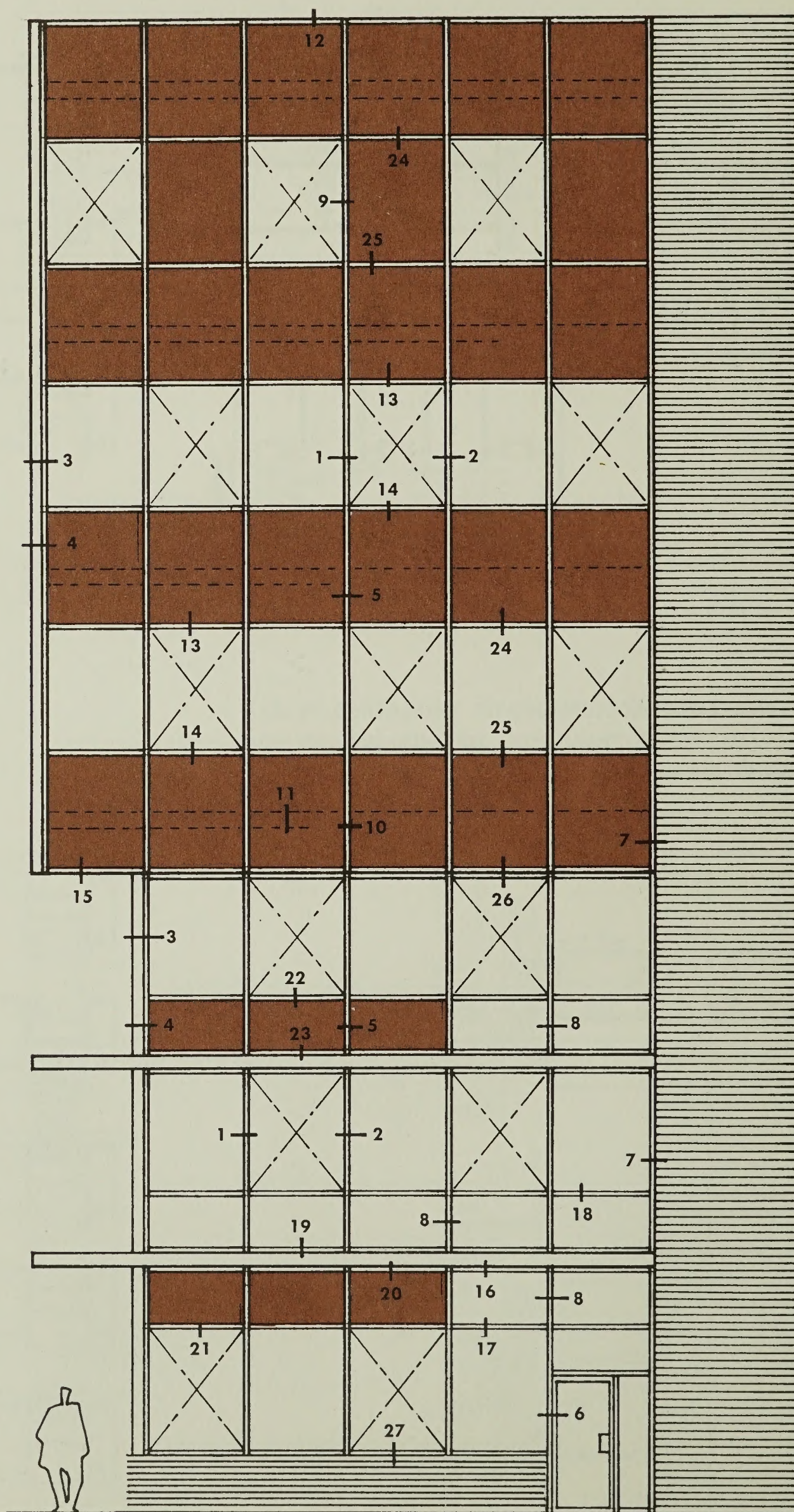
IMPORTANT: Series B-100 requires a minimum of three modular lites to a bay, with the operating sash in the center in order to clean the windows from the interior. Two lite bays may be used if provision is made for window-cleaning from the exterior.

Weathertight, GRIDWALL is engineered as a perfect watershed, not requiring the use of any glazing or caulking compounds, eliminating all possibility of leakage even should water penetrate the vinyl gaskets retaining the glass and spandrel panels.

See page 12 for specifications.

ELEVATION 1/8" = 1'0"

All details are keyed to the section numbers shown here

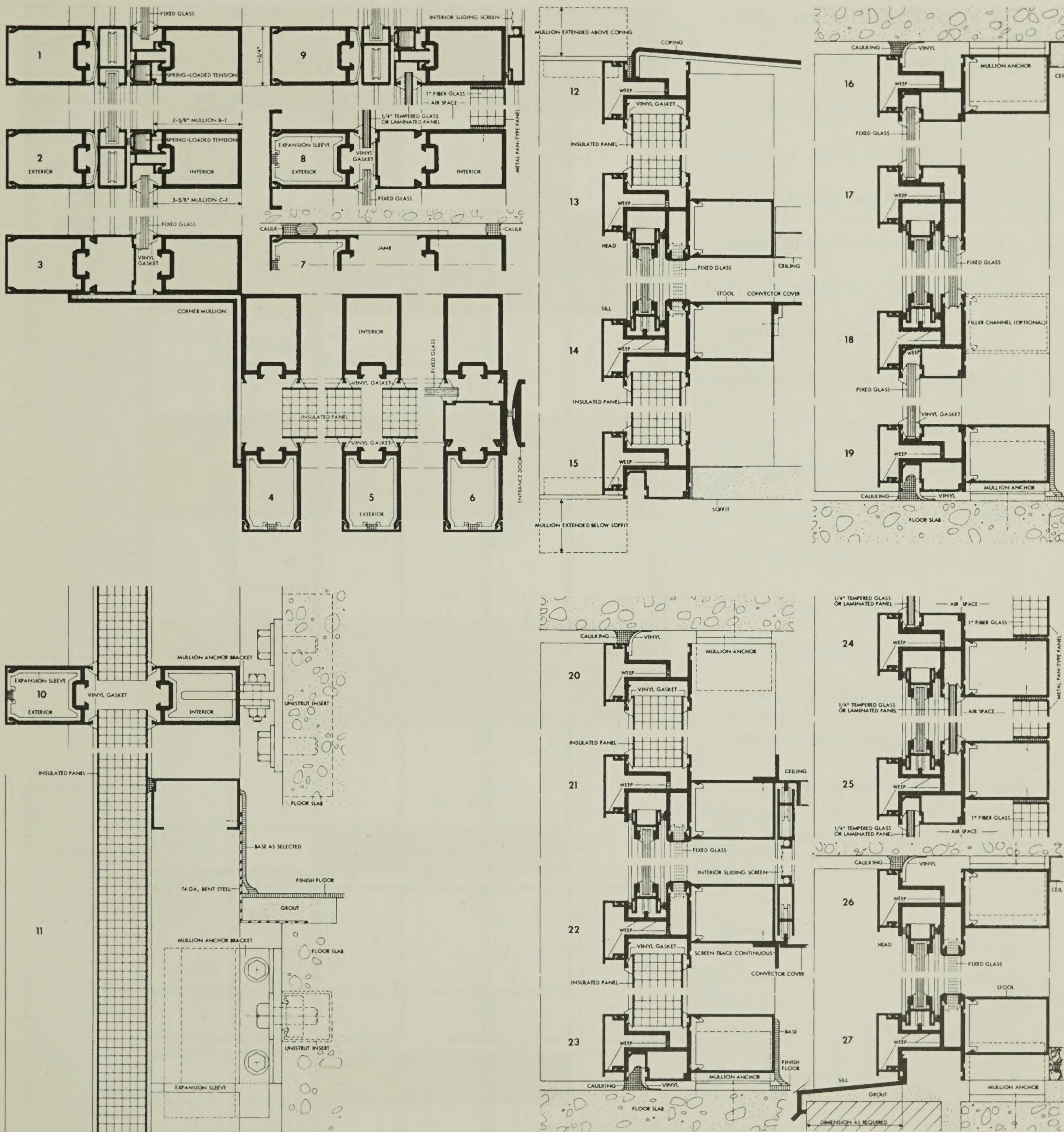


1/4 SIZE DETAILS

full size details available

GRIDWALL

SERIES B-100



Gridwall construction is protected by U. S. patent numbers 2885040, 2704866, 2627092, and patents pending.

SERIES B-200 ACCOMMODATES INSULATING GLASS UP TO 5/8" IN THICKNESS. DETAILS SIMILAR TO SERIES B-100 — AVAILABLE ON REQUEST.

SERIES B-300 ACCOMMODATES INSULATING GLASS UP TO 1" IN THICKNESS. DETAILS SIMILAR TO SERIES B-100 — AVAILABLE ON REQUEST.

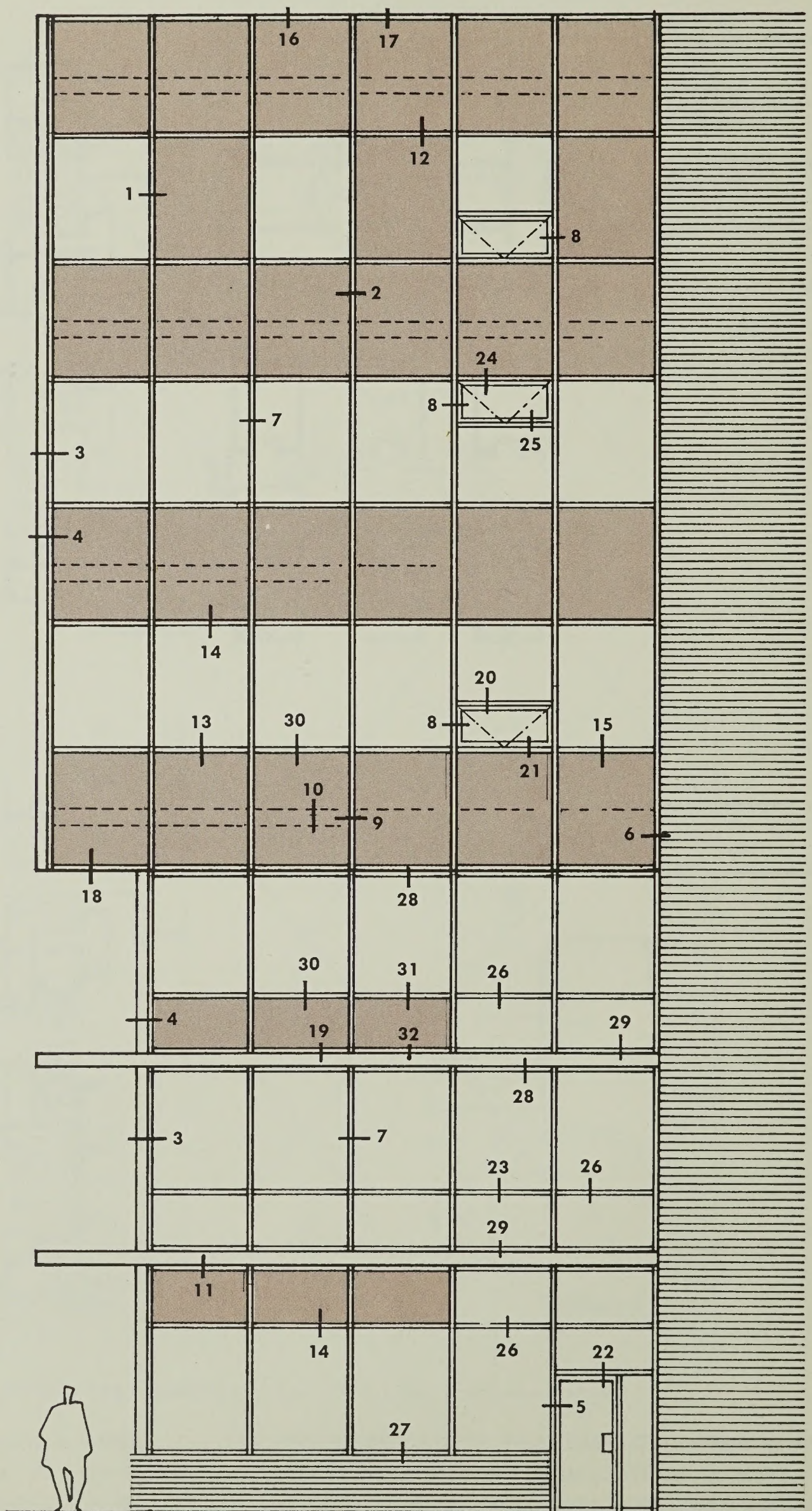
The most versatile of the GRIDWALL series, C-200 accommodates in any combination the elements of fixed glass, 1/4" to 1" thick, insulated panels, and any type of vented sash. These elements are dry-set in vinyl gaskets and may be installed from the interior or exterior of the building as required.

Weathertight, GRIDWALL is engineered as a perfect watershed, not requiring the use of any glazing or caulking compounds, eliminating all possibility of leakage even should water penetrate the vinyl gaskets retaining the glass and spandrel panels.

See page 13 for specifications.

ELEVATION 1/8" = 1'0"

All details are keyed to section numbers shown here.

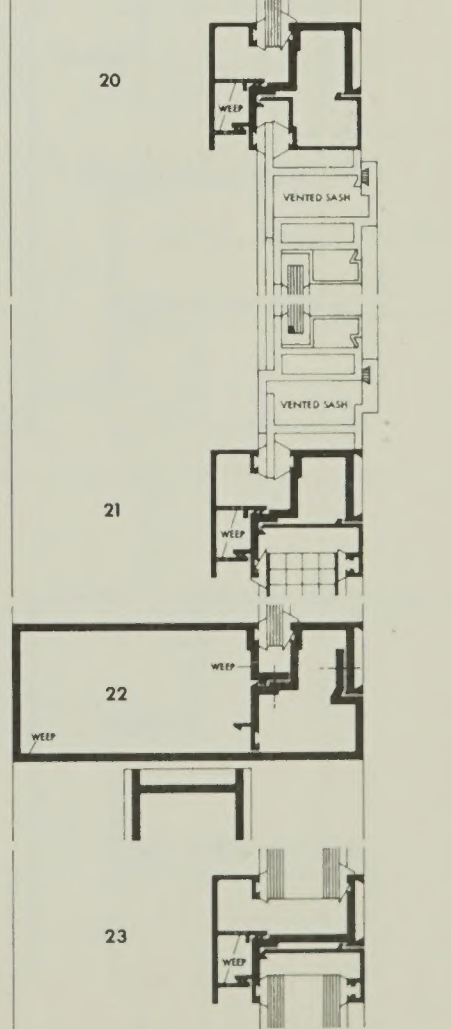
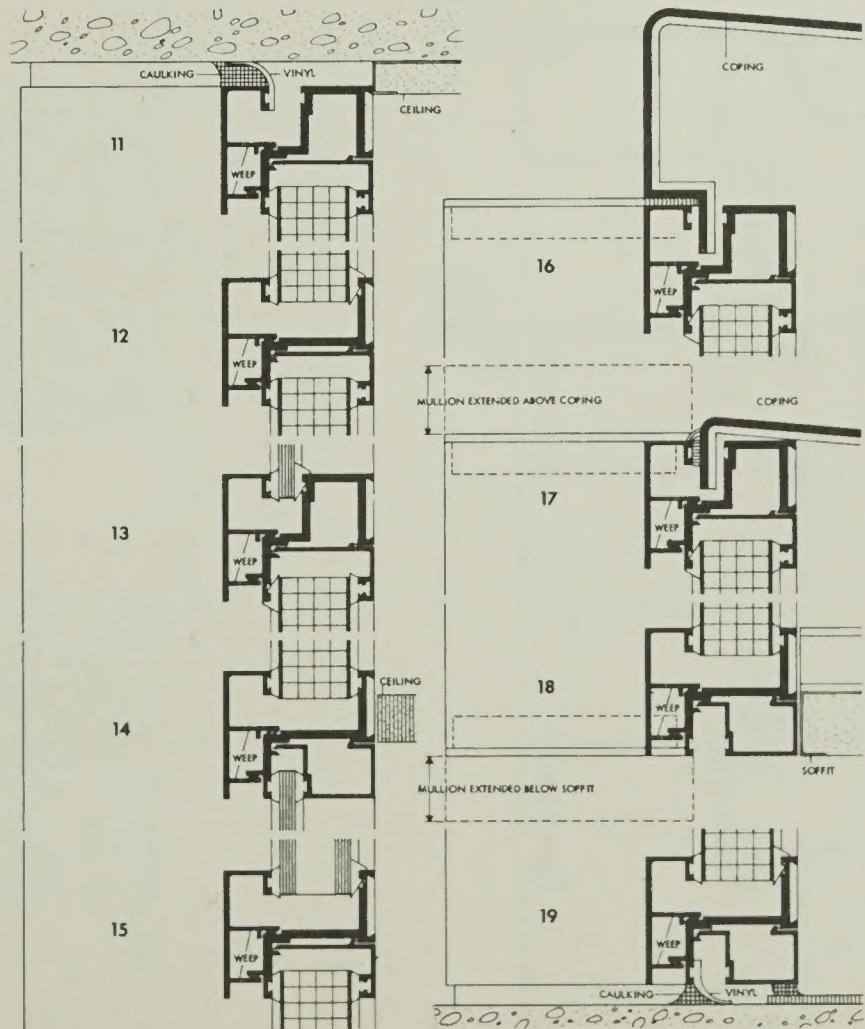
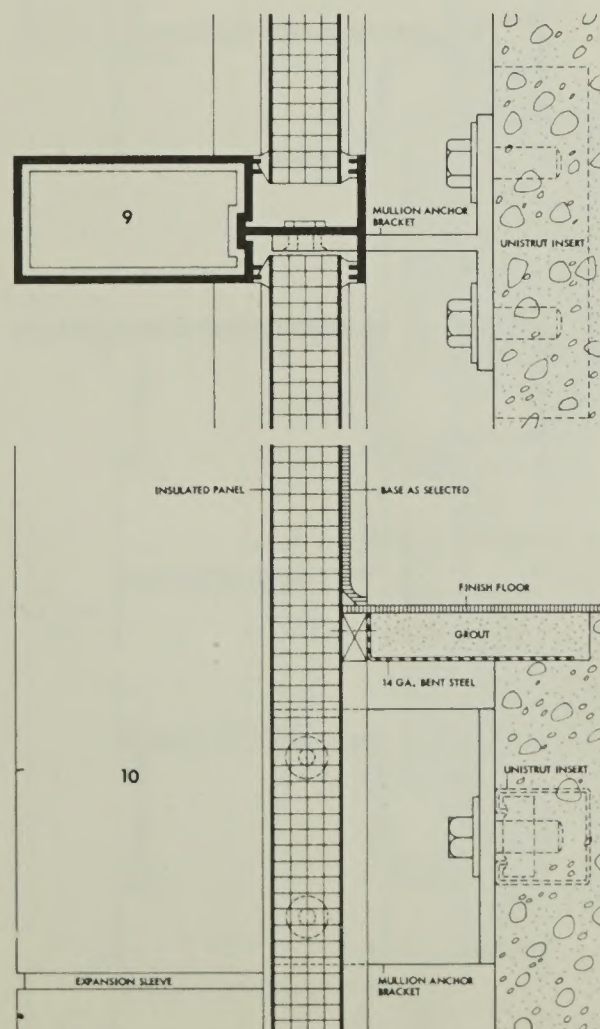
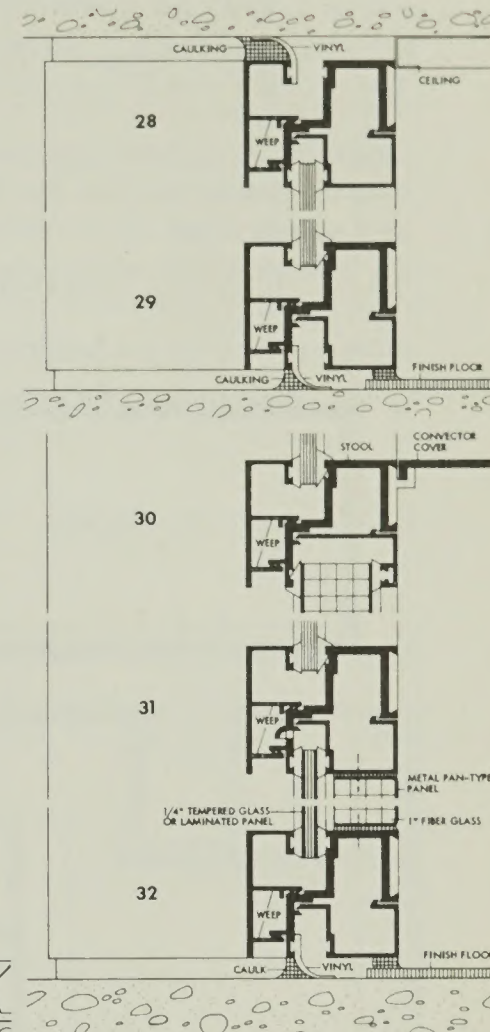
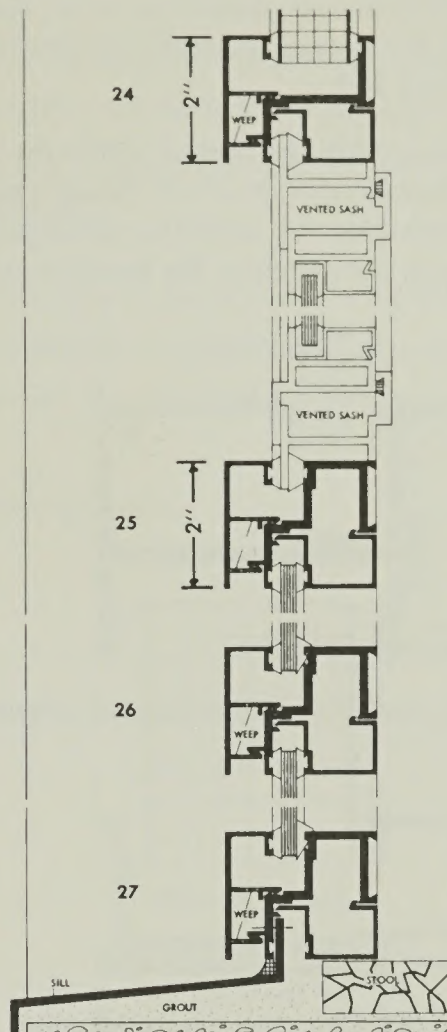
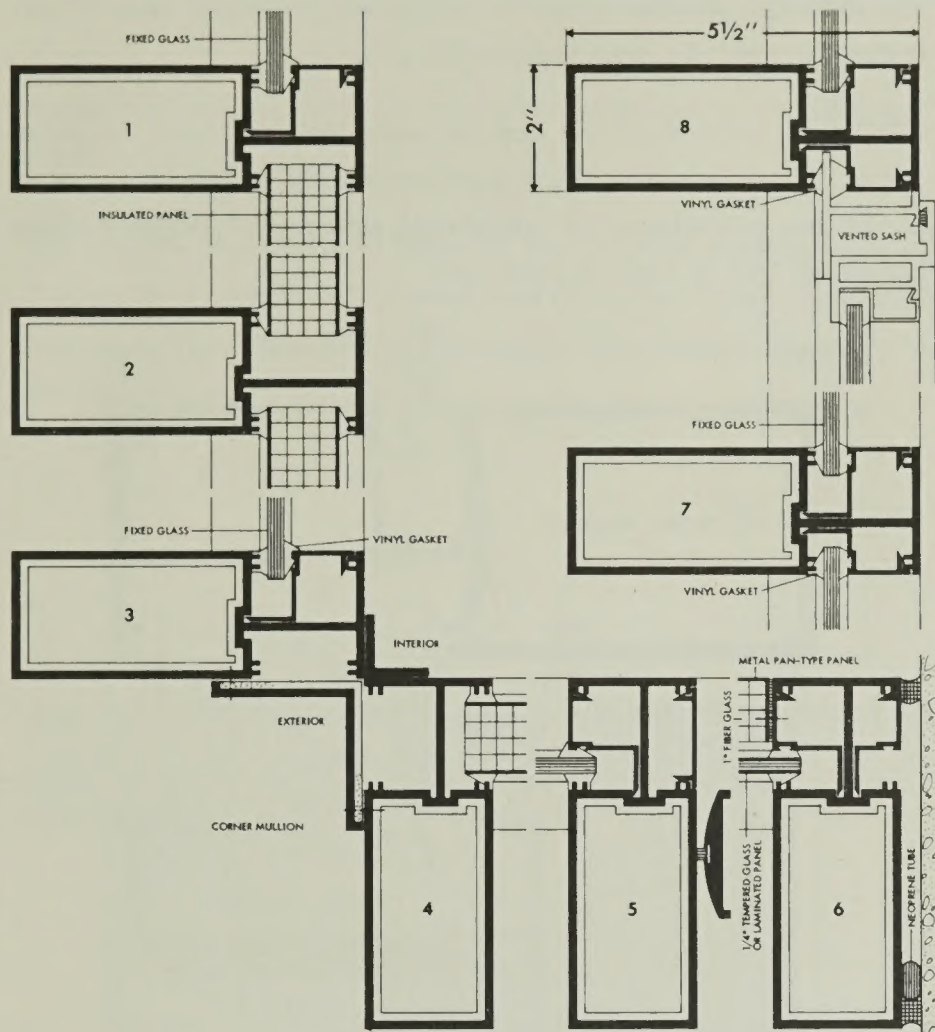


1/4 SIZE DETAILS

full size details available

GRIDWALL

SERIES C-200

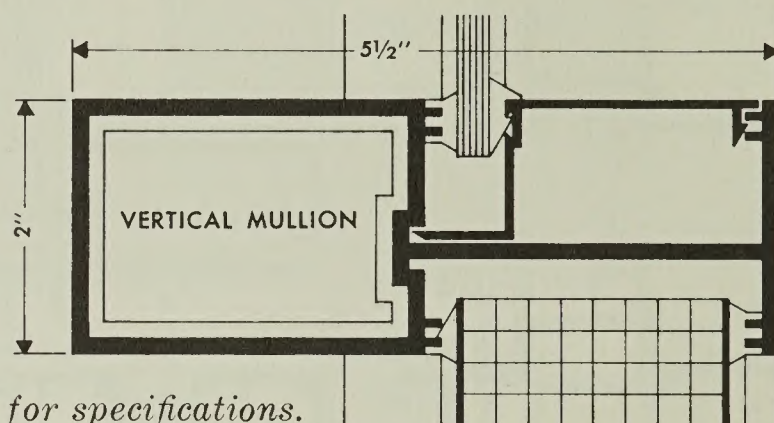
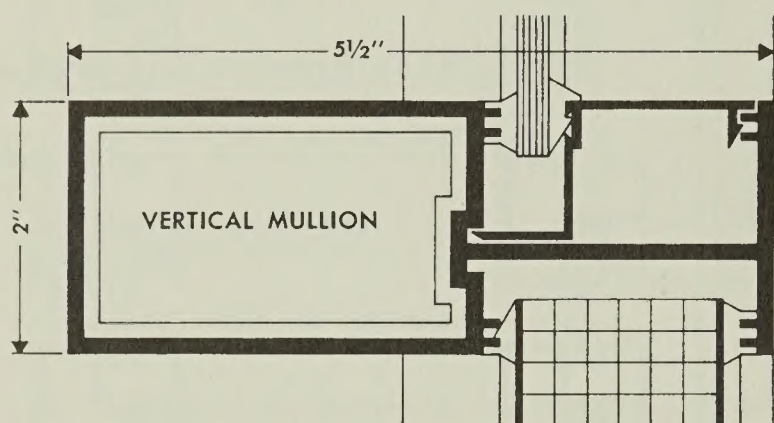


Series C-300 and C-400 are similar in detail to Series C-200 differing only in the provision for accommodating 1½" panels in Series C-300 and 2" panels in C-400.

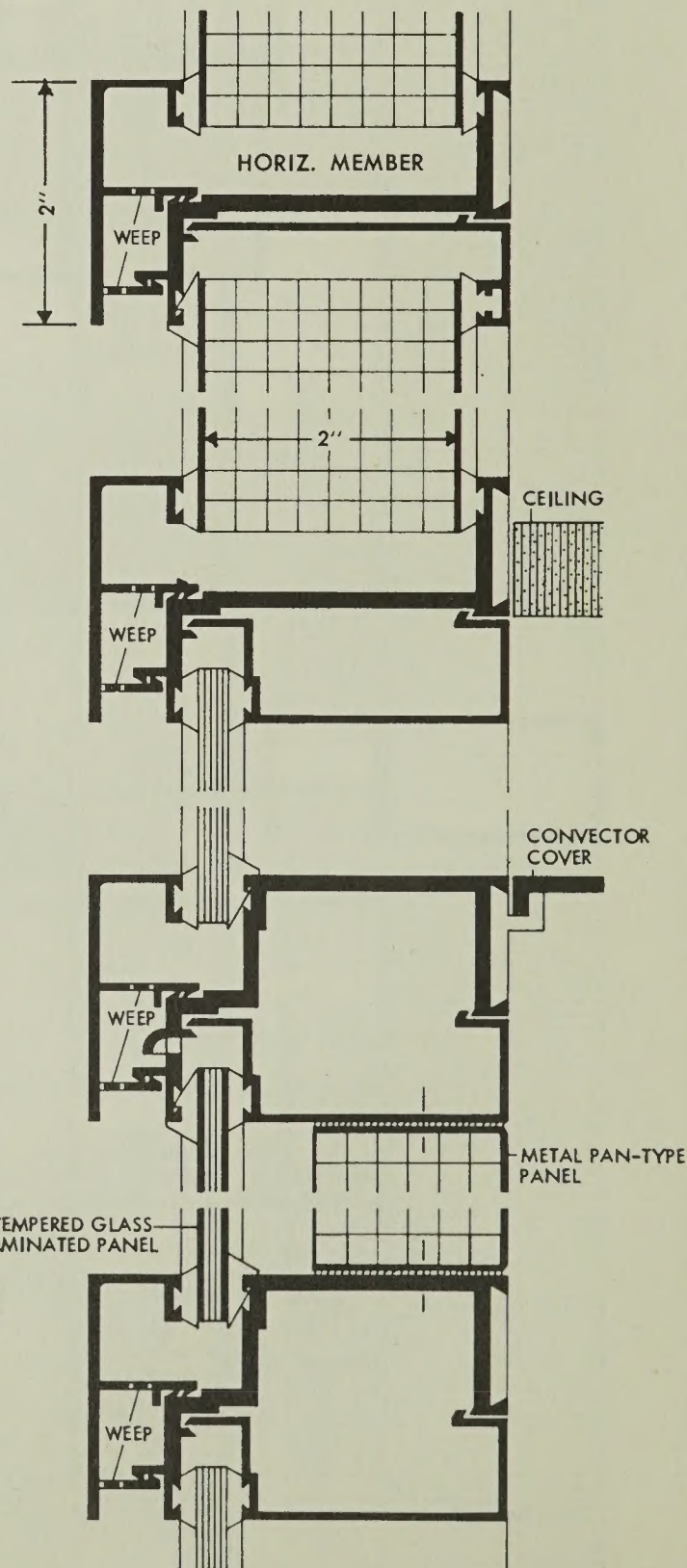
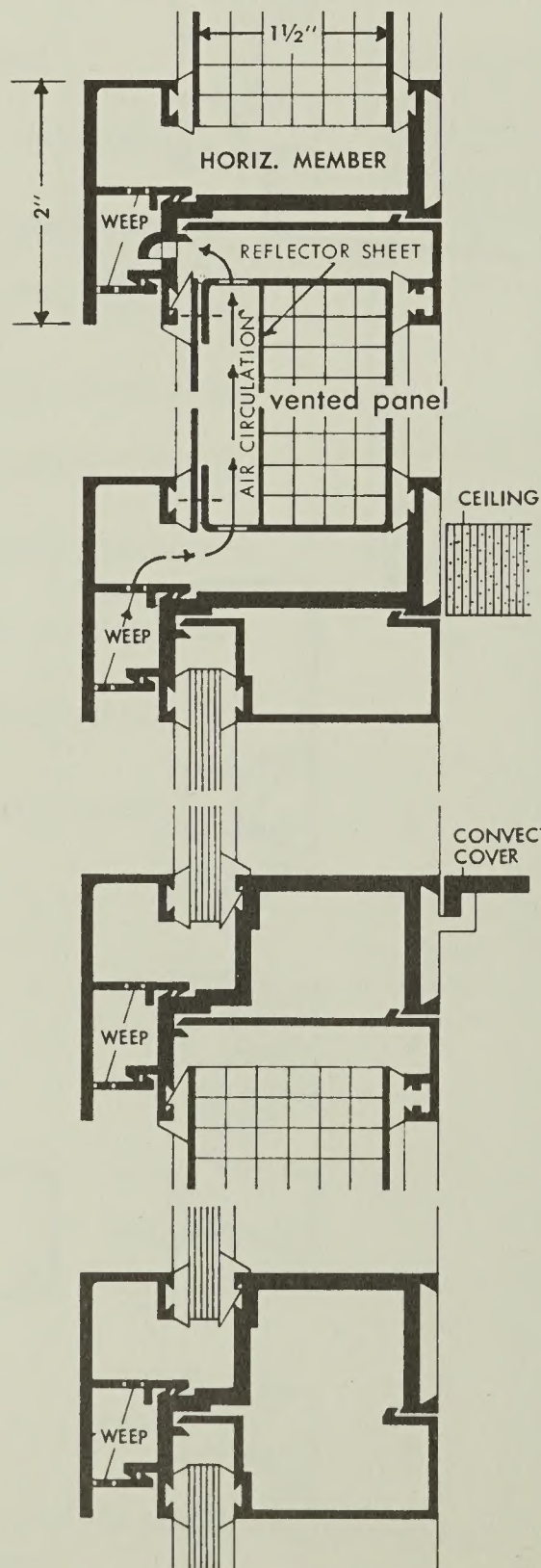
GRIDWALL's exclusive system of drainage control within the grid framing makes possible the free circulation of air through spandrel panels which more than doubles the insulating efficiency of the fiberglass core and prevents distortions in the exterior panel.

The detail below illustrates the solar-pump principle of air circulation through the spandrel panel.

GRIDWALL vented panels cost no more than ordinary insulated panels of comparable thickness and materials. GRIDWALL vented panels are available in all GRIDWALL series which accommodate panels of 1½" or more in thickness.



See page 13 for specifications.



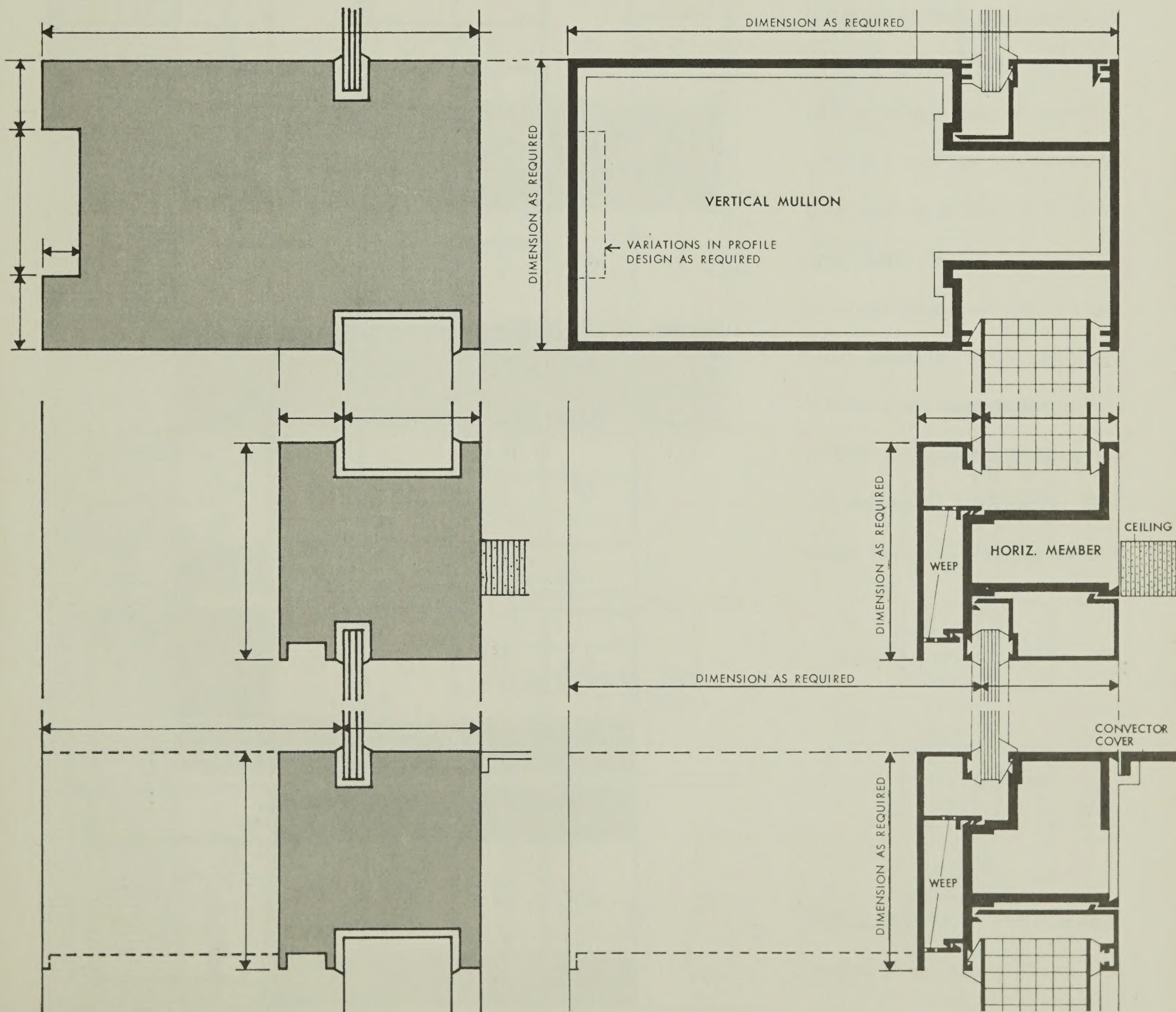
GRIDWALL C-500 SERIES will provide the architect with the utmost freedom in his choice of grid profile design, and with the time-tested GRIDWALL construction, he is assured of weathertight performance.

The details on this series indicate the general construction and mating of the various extruded members. The blank dimensions may vary in accordance with the particular design requirements of the architect.

Since the specifications describe GRIDWALL construction in clear detail, to simplify the architect's work, he may, if he desires, indicate the grid profile and dimensions only with notation that the specifications govern the construction requirements. (See example below.)

The architect can then rely on GRIDWALL to furnish complete shop drawings, detailing every technical aspect of the curtain wall for his approval prior to manufacture.

See page 13 for specifications.

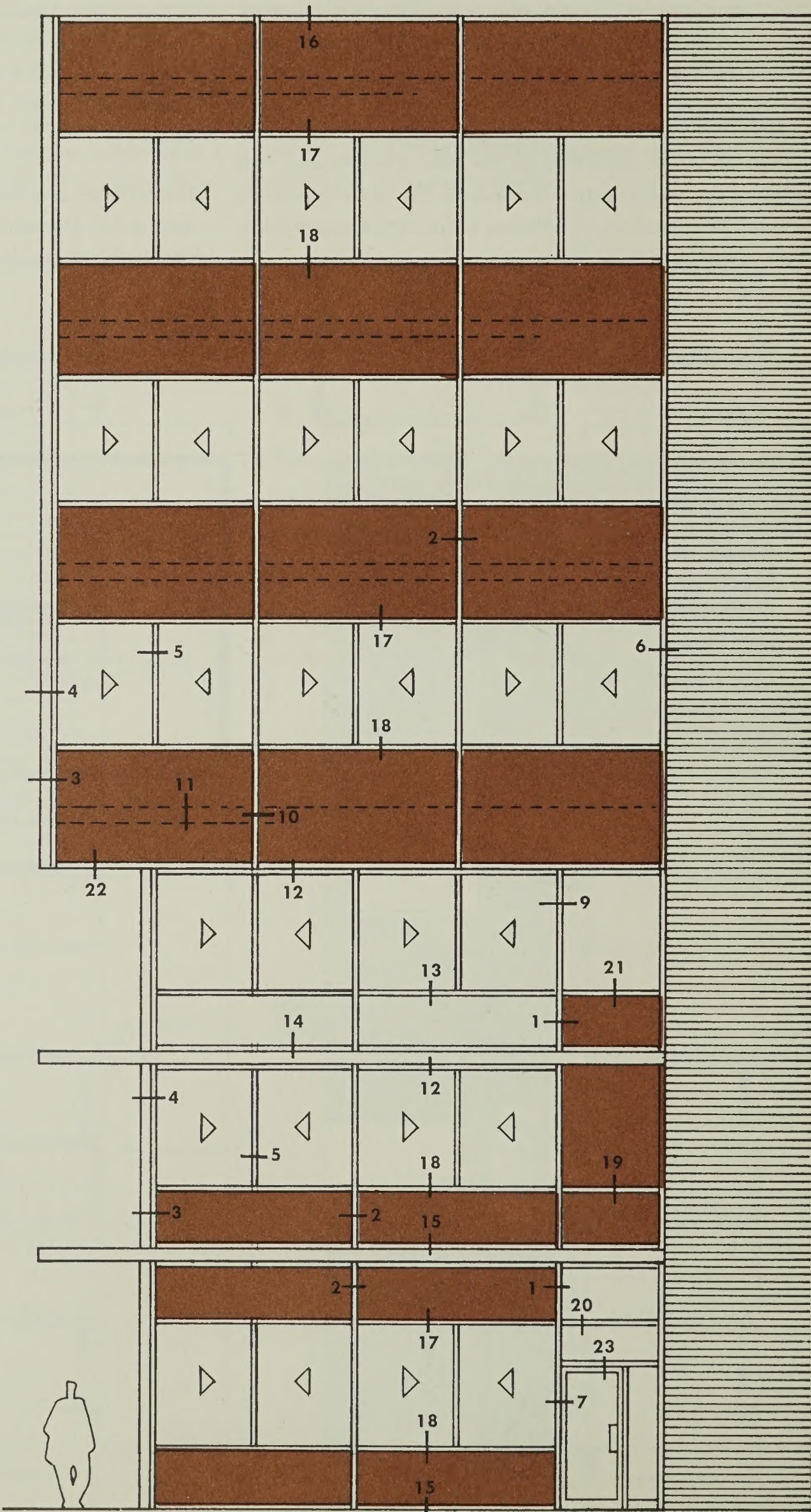


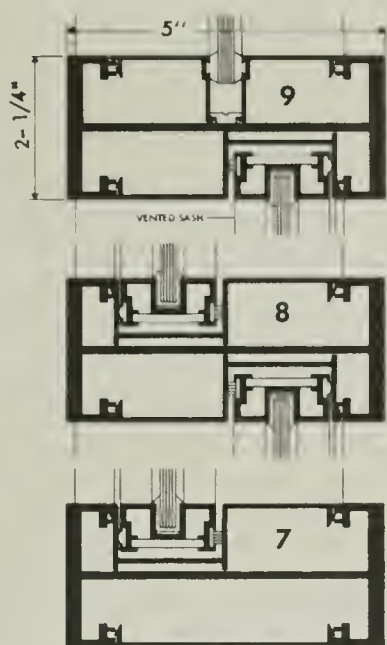
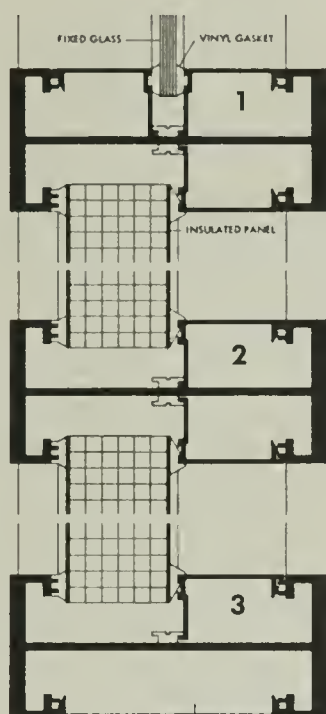
SERIES D-100 is basically a modular panel system providing in each modular bay a pair of bypassing horizontal rolling sash which permits maximum ventilation control and window-cleaning from the interior. The perimeter of the sliding sash is encased within the grid framing, forming a composite rectangular profile of all vertical mullions and horizontal rails with a uniform face dimension of 2-1/4". Grid framing can accommodate insulated panels to 3" in thickness. Fixed half or full screens are available for exterior application. Sliding half screens are available for interior use with attached screen guide tracks.

See page 13 for specifications.

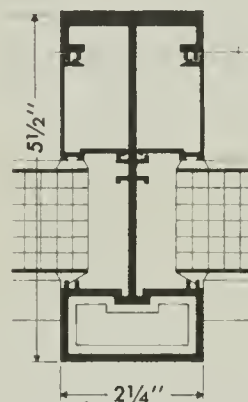
ELEVATION 1/8" = 1'0"

All details are keyed to section numbers shown here.

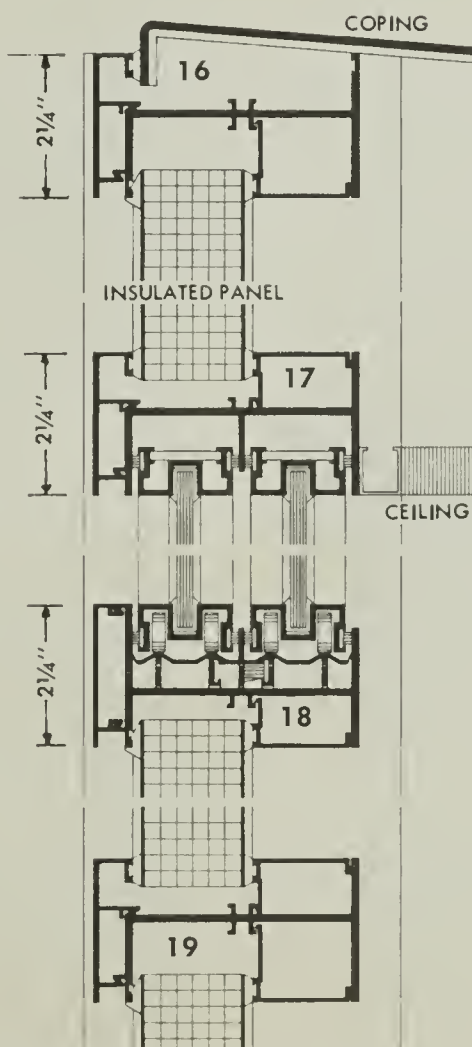
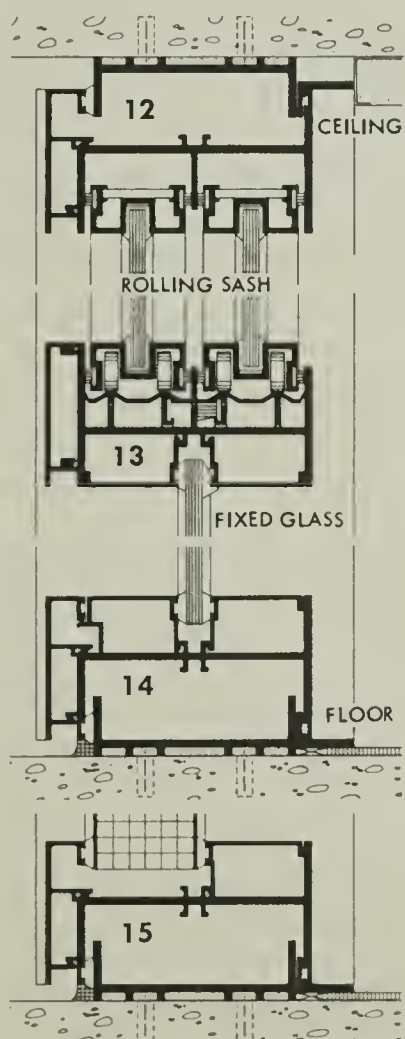
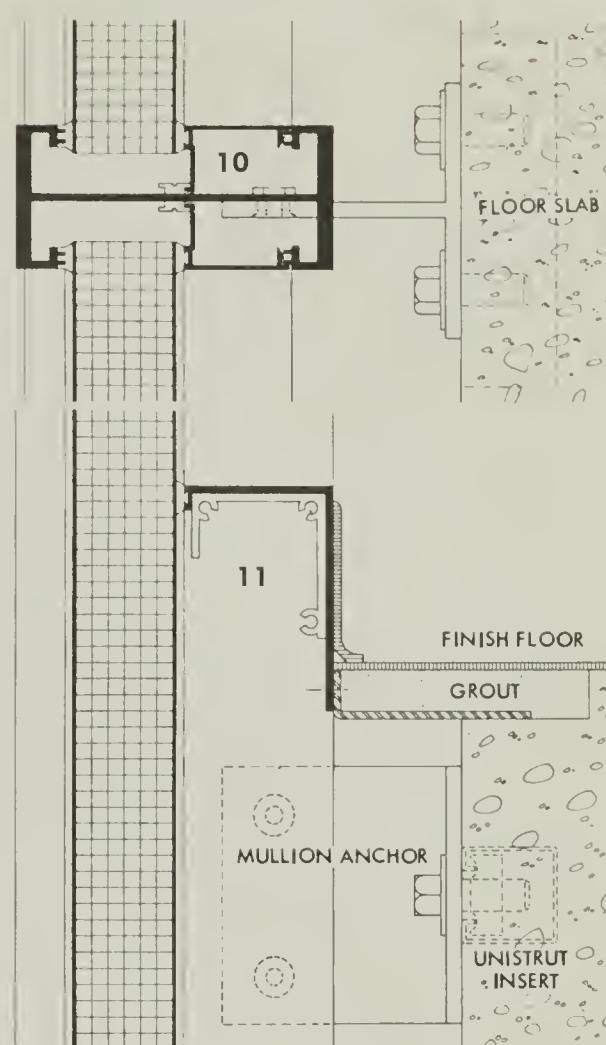




D-1 MULLION
For Series D-100
used as a curtain
wall between floor
slabs on low or high
rise bldgs. Max.
height—2 stories.



D-2 MULLION
For Series D-100
when used as a con-
tinuous curtain wall
facade exceeding 2
stories in height.



SPECIFICATIONS

SERIES A-100

GENERAL: Aluminum curtain wall fenestration system shown on plans shall be GRIDWALL Series A-100, manufactured by GRIDWALL COMPANY of North Hollywood, California.

MATERIAL AND CONSTRUCTION: GRIDWALL shall be constructed from specially designed, extruded shapes of 6063-T5 tempered aluminum alloy in accordance with GRIDWALL standards and detailed drawings.

FRAMING: Frame members forming the grid shall be so constructed that after installation, the metal can expand or contract freely with no possibility of leakage at the joints. Each vertical mullion shall be composed of two rectangular sections, forming a split mullion. These sections shall be separated by horizontal rail sections passing between them and secured to the mullions at this point. The space thus formed between the two sections of the split mullion shall accommodate the insulated panels and the sliding glass sash that will bypass each other, permitting window-cleaning from the interior. The profile section of the composite mullion must be rectangular in shape. In no case shall this rectangular profile be altered by sash stiles or screw-fastened stops protruding beyond the side face of the mullion (as is usually the case in other types of construction). Horizontal expansion joints, where required, shall occur directly behind the center line of the vertical mullion, completely protected from exterior exposure, and shall be spaced as far apart as engineering will permit.

GLAZING AND WEATHERSTRIPPING. All weatherstripping shall be of the highest grade wool pile on stainless steel channels, cemented in continuous lengths at top and bottom and sides of the glass sash. The woven pile on stiles of sash shall be not less than $\frac{3}{4}$ " wide and vinyl plastic shall be impregnated in the fabric backing on exposed back of weatherstrip channel. A spring-loaded extruded aluminum section, housed in each half of the split mullion, shall exert a clamp-like pressure on the overlapping sash stiles between them, the full height of the sash. All sash shall slide on a continuous zinc channel runner housed in the extruded aluminum horizontal grid rails.

INSULATED PANELS: Insulated panels shall be retained within the grid framing by vinyl gaskets on the interior and exterior sides. No water leakage shall appear on the interior even should water penetrate the wool pile retaining the glass or the vinyl gaskets retaining the panels. The use of glazing or caulking compounds around the perimeter of glass or panels will not be permitted.

HARDWARE: All sliding sash shall be provided with a latch in the bottom rail which can be opened only by a special key furnished to the window cleaner.

FINISH: All exposed aluminum shall be Anodized in accordance with Alcoa's specification 204R-1.

SCREENS (optional): Designed for easy attachment, screens shall be made of aluminum frames fitted with 18 x 14 mesh aluminum wire cloth. Clips for attachment shall be furnished with screens.

ERECTION: GRIDWALL shall be erected in accordance with manufacturer's drawings and supervision. All grid frame members shall be plumb and level and joined so that maximum expansion and contraction will not cause distortion or leakage. Protection of GRIDWALL against damage by other trades shall be the responsibility of the general contractor. Final cleaning of the aluminum shall be the responsibility of the general contractor. Mastic, other than at expansion joints, shall be under separate contract.

SPECIFICATIONS FOR SERIES A-200 SAME AS ABOVE.
SERIES A-200 ACCOMMODATES INSULATING GLASS UP TO 1/2" IN THICKNESS. DETAILS SIMILAR TO SERIES A-100 — AVAILABLE ON REQUEST.

SPECIFICATIONS

SERIES B-100

GENERAL: Aluminum curtain wall fenestration system shown on plans shall be GRIDWALL Series B-100, manufactured by GRIDWALL COMPANY of North Hollywood, California.

MATERIAL AND CONSTRUCTION: GRIDWALL shall be constructed from specially designed, extruded shapes of 6063-T5 tempered aluminum alloy in accordance with GRIDWALL standards and detailed drawings.

FRAMING: Frame members forming the grid shall be so constructed that after installation, the metal can expand or contract freely with no possibility of leakage at the joints. Each vertical mullion shall be composed of two rectangular sections, forming a split mullion. These sections shall be separated by horizontal rail sections passing between them and secured to the mullions at this point. The space thus formed between the two sections of the split mullion shall accommodate insulated panels, fixed glass, and rolling sash that will permit window-cleaning from the interior. The profile section of the composite mullion must be rectangular in shape. In no case shall this rectangular profile be altered by sash stiles or screw-fastened stops protruding beyond the side face of the mullion (as is usually the case in other types of construction). Horizontal expansion joints, where required, shall occur directly behind the center line of the vertical mullion, completely protected from exterior exposure, and shall be spaced as for open as engineering will permit.

SLIDING SASH AND WEATHERSTRIPPING: Sash stiles shall be constructed of tubular extruded sections coped at each end to receive the top and bottom rail members, which are thus telescoped to a depth equalling the width of the stiles. The stiles shall be bolted securely to the ends of the rails. Sash shall roll horizontally on sealed and packed ball-bearing sleeves with nylon rims. Weatherstripping in bottom and top rails shall be metal-backed, mold and mildew-proof silicated wool pile, double-set in continuous lengths so that all weatherstripping is under equal compression the entire width of the sash. Weatherstrip sections of hard vinyl under spring tension, housed in each half of the split mullion, shall exert a clamp-like action on the sash stile between them the full height of the sash. Sash shall operate in either direction to permit window-cleaning from the interior.

GLAZING AND INSULATED PANELS: All fixed glass, insulated panels and glass in operating sash shall be retained within the aluminum framing by the use of vinyl gaskets. No water leakage shall occur on the interior even should water penetrate the exterior vinyl gaskets. The use of glazing or caulking compounds around the perimeter of the glass or insulated panels will not be permitted.

HARDWARE: All sliding sash shall be provided with a spring-tensioned, full-grip pull handle with hinged action so that when not in use, it is flush with the interior face of sash stiles in order to bypass the split mullion when operated in either direction. The hinged pull handle, when secured to the mullion, shall automatically lock the sliding sash in position.

FINISH: All exposed aluminum shall be Anodized in accordance with Alcoa's specification 204R-1 (unless otherwise specified).

SCREENS (optional): Screens for this series shall be horizontal sliding screens, operated on extruded tracks secured continuously at the stool and head of window units. The vertical sides of the screen frame shall line up behind the interior face of the mullions so that no portion of the screen frame will protrude beyond the side face of the grid mullions. Screen frames shall be fitted with 18 x 14 mesh aluminum wire cloth.

ERECTION: GRIDWALL shall be erected in accordance with manufacturer's drawings and supervision. All grid frame members shall be plumb and level and joined so that maximum expansion and contraction will not cause distortion or leakage. Protection of GRIDWALL against damage by other trades shall be the responsibility of the general contractor. Final cleaning of the aluminum shall be the responsibility of the general contractor. Mastic, other than at expansion joints, shall be under separate contract.

SPECIFICATIONS FOR SERIES B-200 SAME AS ABOVE.
SERIES B-200 ACCOMMODATES INSULATING GLASS UP TO 5/8" IN THICKNESS. DETAILS SIMILAR TO SERIES B-100 — AVAILABLE ON REQUEST.

SPECIFICATIONS FOR GRIDWALL SERIES B-300 SAME AS ABOVE.
SERIES B-300 ACCOMMODATES INSULATING GLASS UP TO 1" IN THICKNESS. DETAILS SIMILAR TO B-100 — AVAILABLE ON REQUEST.



SPECIFICATIONS GRIDWALL SERIES C-200

GENERAL: Aluminum curtain wall fenestration system as shown on plans shall be GRIDWALL Series C-200 manufactured by GRIDWALL COMPANY of North Hollywood, California.

MATERIAL AND CONSTRUCTION: GRIDWALL shall be constructed from specially designed extruded shapes of 6063-T5 tempered aluminum alloy in accordance with GRIDWALL standards and detailed drawings.

FRAMING: The vertical mullions shall be of tubular construction, anchored to structure in accordance with details shown.

FRAMING: The design of the vertical mullion shall provide a channel into which the horizontal grid members shall be joined so that the actual joints are shielded from exterior exposure by the full depth of the channel.

A receptacle of the same profile shape as the horizontal grid member, shall be mill-formed into the vertical mullion channel to house the ends of the horizontal members.

Thus joined telescopically with the vertical mullions, the horizontal members shall be sealed with resilient fiber-reinforced butyl between each end and the web of the vertical mullion to permit unrestricted expansion and contraction.

Exposed butt-joining of horizontal to vertical grid members will not be permitted.

GLAZING: All fixed glass, insulated panels or vented sash shall be retained within the grid framing by vinyl gaskets on the interior and exterior sides. No water leakage shall occur even should water penetrate the exterior vinyl gaskets. The use of glazing or caulking compounds of any kind around the perimeter of fixed glass, panels or vented sash will not be permitted.

FINISH: Standard finish for GRIDWALL Series C-200 shall be in accordance with Alcoa's specification 204R-1 (unless otherwise specified).

SCREENS (optional): Designed for easy attachment and removal, screens shall be made of aluminum frames fitted with 18 x 14 mesh aluminum wire cloth.

ERECTION: GRIDWALL shall be erected in accordance with manufacturer's drawings and supervision. All grid frame members shall be plumb and level and joined so that maximum expansion and contraction will not cause distortion or leakage. Protection of GRIDWALL against damage by other trades shall be the responsibility of the general contractor. Final cleaning of the aluminum shall be the responsibility of the general contractor.

SPECIFICATIONS FOR GRIDWALL SERIES C-300, C-400, AND C-500 SAME AS ABOVE.**SPECIFICATIONS GRIDWALL SERIES D-100**

GENERAL: Aluminum curtain wall fenestration system shown on plans shall be GRIDWALL Series D-100, manufactured by GRIDWALL COMPANY of North Hollywood, California.

MATERIAL AND CONSTRUCTION: GRIDWALL shall be constructed from specially designed, extruded shapes of 6063-T5 tempered aluminum alloy in accordance with GRIDWALL standards and detailed drawings.

FRAMING: The design of the vertical mullion shall provide a channel into which the horizontal grid members shall be joined so that the actual joints are shielded from exterior exposure by the full depth of the channel.

A receptacle, of the same profile shape as the horizontal grid member, shall be mill-formed into the vertical mullion channel to house the ends of the horizontal members.

Thus joined telescopically with the vertical mullions, the horizontal members shall be sealed with resilient fiber-reinforced butyl between each end and the web of the vertical mullion to permit unrestricted expansion and contraction.

Exposed butt-joining of horizontal to vertical grid members will not be permitted.

To qualify for the design requirements of this work, mullions and horizontal rails must be of rectangular profile with a uniform face dimension of 2¼". Any portion of sash or screw-type glass stops protruding beyond the rectangular sight lines of the grid members will not be permitted. Base and head anchor extrusions shall be set in continuous lengths with sleeve joints as far apart as engineering will permit.

SASH: Sash shall be constructed with aluminum extrusions of .090 average wall thickness. Interlocking stiles shall be tubular for maximum wind-load resistance. All sash shall roll on stainless steel needle bearing rollers with stainless steel rims and shall bypass one another to permit window cleaning from the interior.

WEATHERSTRIPPING: The complete sash perimeter shall be weatherstripped with mildew-proof silicoted wool pile. Although the interlocking stiles are notched at head and sill for easy insertion or removal of sash, the weatherstripping in the interlocking stiles shall be continuous, preventing any daylight from being visible at sill or head. Weep holes for water drainage in sill shall be shielded by a wool pile baffle to prevent air from infiltrating into the interior.

SCREENS: Screens shall be fabricated of extruded (or roll formed) aluminum frames fitted with 18 x 14 mesh fiber glass (or aluminum) screening. Specify exteriors hung half or full screens or interior sliding half screens.

ERECTION: GRIDWALL shall be erected in accordance with manufacturer's drawings and supervision. All grid frame members shall be plumb and level and joined so that maximum expansion and contraction will not cause distortion or leakage. Protection of GRIDWALL against damage by other trades shall be the responsibility of the general contractor. Final cleaning of the aluminum shall be the responsibility of the general contractor.

GLAZING: All fixed glass, insulated panels or vented sash shall be retained within the grid framing by vinyl gaskets on the interior and exterior sides. No water leakage shall occur even should water penetrate the exterior vinyl gaskets. The use of glazing or caulking compounds of any kind around the perimeter of fixed glass, panels or vented sash will not be permitted.

IMPORTANT: ADD TO SPECIFICATIONS FOR ALL SERIES

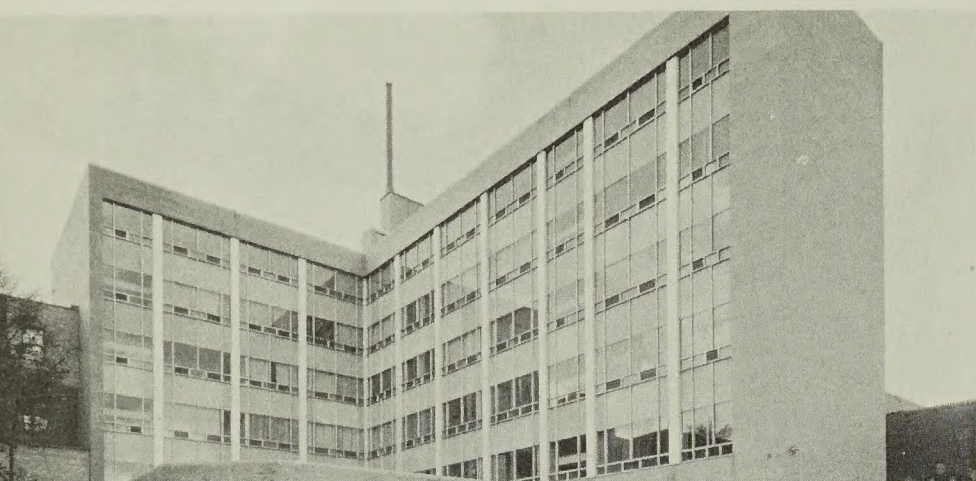
QUALIFICATION OF CURTAIN WALL MANUFACTURER: It shall be mandatory that the curtain wall manufacturer must have been engaged in the fabrication and erection of curtain wall installations for a period of not less than five years. A list of all previous curtain wall jobs within this period shall be submitted to the architect for his reference, with authorization to obtain any information he requires in connection with the performance of this work.

GUARANTEE: The curtain wall shall be guaranteed for five years against water leakage, faulty materials or workmanship. Manufacturer shall be notified immediately of any work to be performed under this guarantee and manufacturer will supply labor and materials at no additional cost to perform this work.

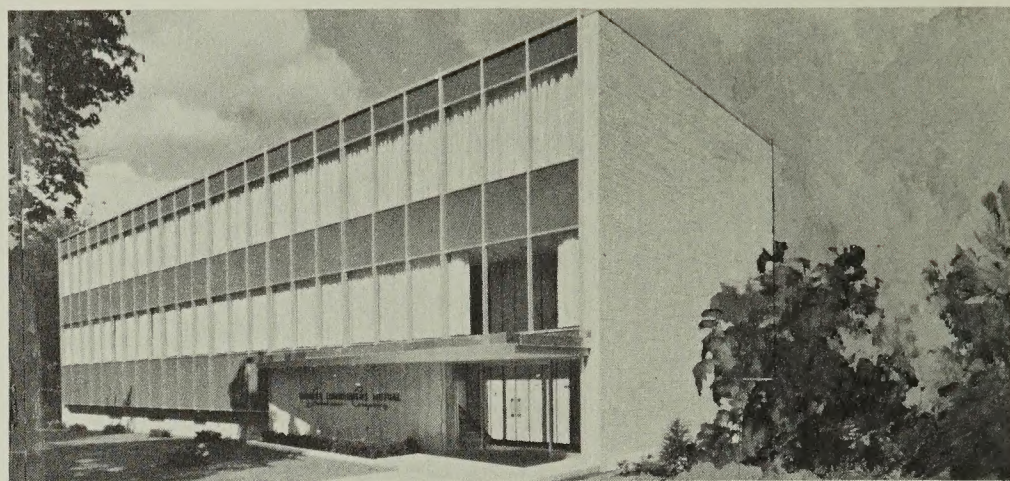
TEST REQUIRED: Mandatory, as part of the curtain wall work, shall be the following test by the curtain wall manufacturer, the purpose of which is to prove that the engineering and design of the curtain wall is such as to be weather-tight even under the worst possible job conditions: The test mock-up typical of this curtain wall construction shall be not less than 20 feet x 20 feet in size. It is realistic to assume that with normal field workmanship, the vinyl gaskets retaining the glass and panels may not always be set perfectly, may be accidentally damaged or may be misaligned due to thermal movement. Therefore, on the test mock-up, segments approximately 1½ inches long shall be cut entirely out of the interior and exterior vinyl gaskets at all corners and approximately every 18 inches around the entire perimeter of the fixed glass and insulated panels. The test shall then be performed as follows:

The mock-up shall be subjected to the equivalent of a 24 inch per hour simulated rainfall, driven by a wind machine creating a wind force of 60 miles per hour measured at 12 inches from the mock-up wall. The test shall be run continuously for a period of 2 hours and 15 minutes, covering the entire wall area in nine equal increments. Each increment shall receive a steady exposure of not less than 15 minutes. No water shall penetrate any portion of the interior surface of the curtain wall.

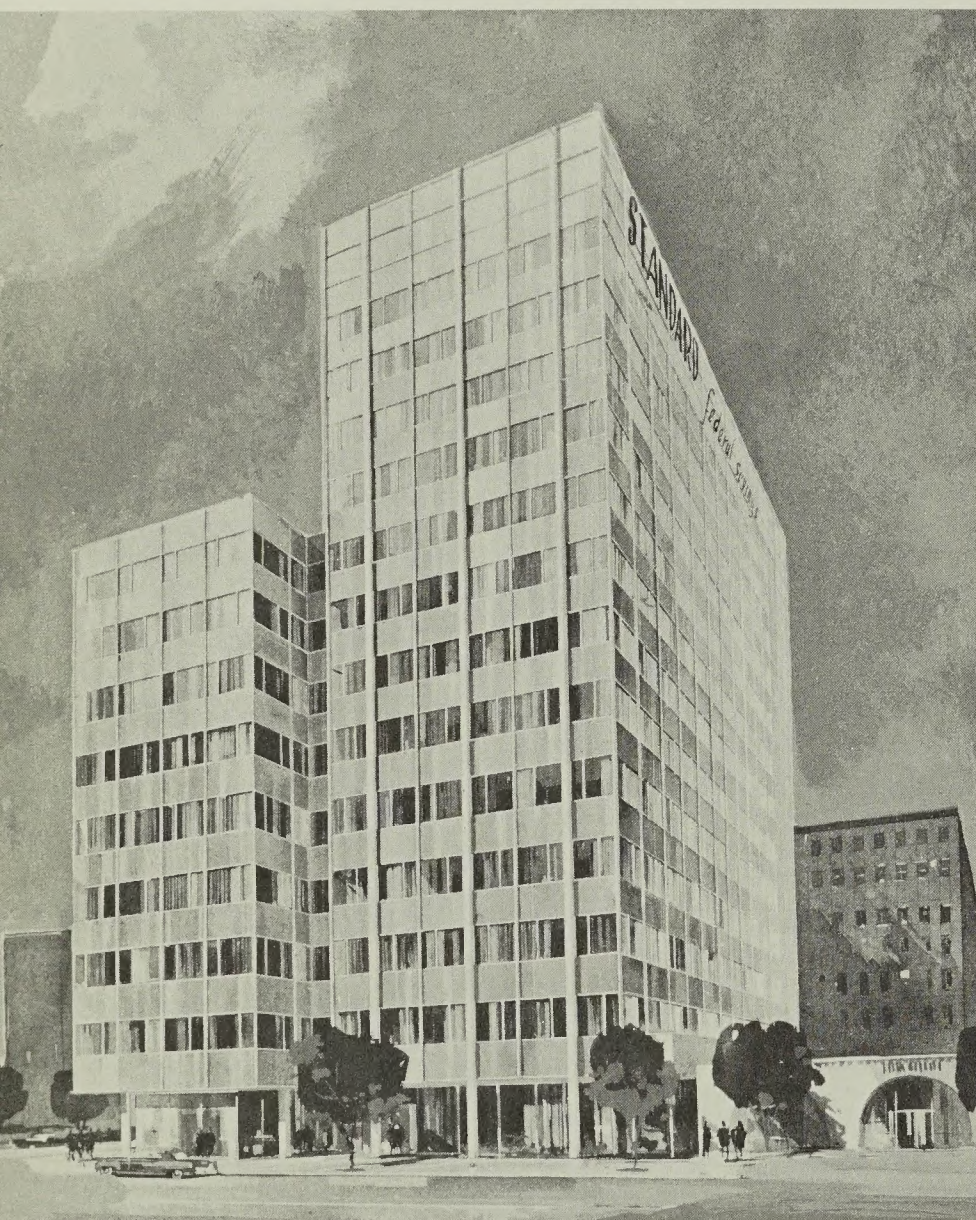
This test shall be administered and documented by a testing laboratory accredited for tests of this nature.



MT. SINAI HOSPITAL, MILWAUKEE
A. Epstein & Sons, Inc., A.I.A., Architects



INDIANA LUMBERMENS MUTUAL INS. CO. BLDG., ALBANY, N.Y.
August Lux & Associates, A.I.A., Architects



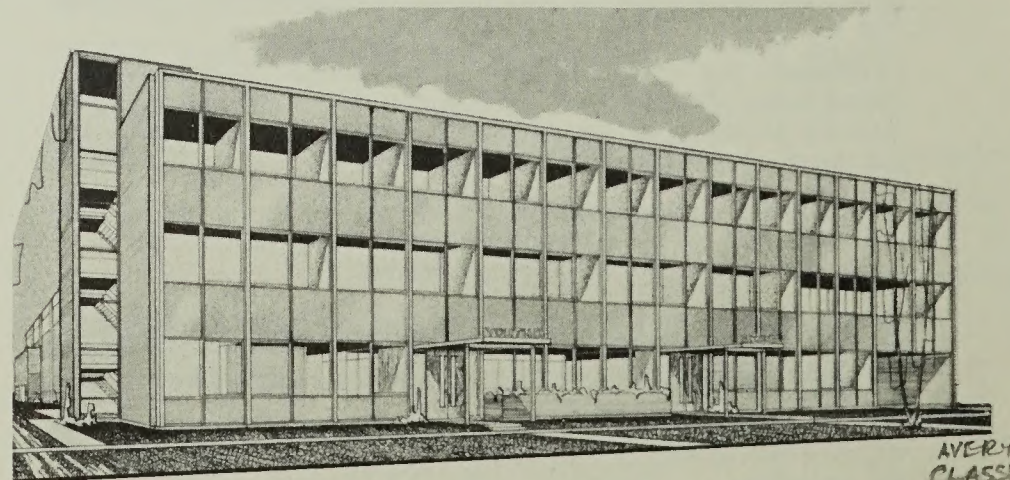
WILSHIRE-GRAND BLDG., LOS ANGELES
Welton, Becket and Associates, A.I.A., Architects



LEE TOWER, LOS ANGELES
W. Douglas Lee and D. Everett Lee, Architects

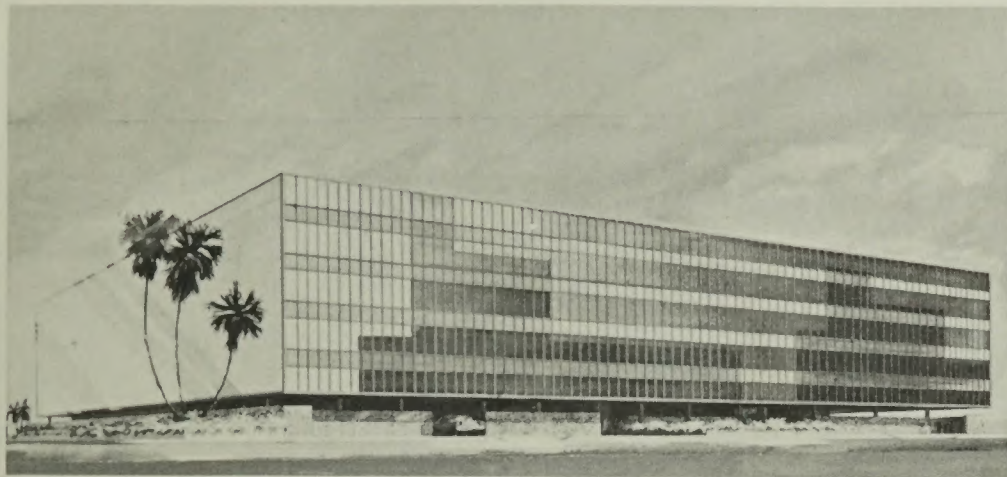


AMERICAN MUTUAL LIFE INS. CO. OFFICE BLDG., HONOLULU
Vladimir Ossipoff, F.A.I.A. and Wayne F. Owens, A.I.A., Architects

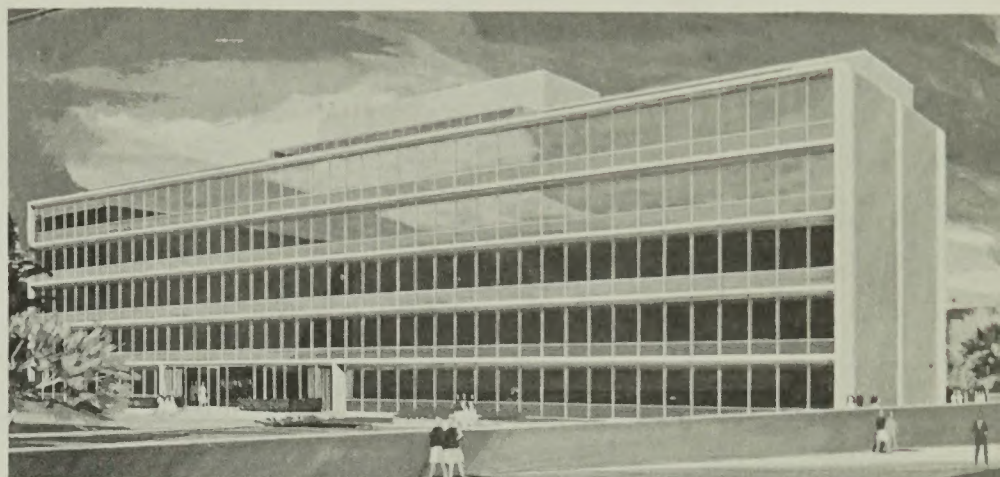


OLEAN YMCA BLDG., OLEAN, N.Y.
Thomas K. Hendryx, A.I.A., Architect and
Robert K. Hendryx, R.A., Designer

EVERY
CLASSICS
AT
8620
987



DIVISION OF HIGHWAYS OFFICE BLDG., LOS ANGELES
State of Calif. Div. of Architecture, Anson Boyd, State Architect



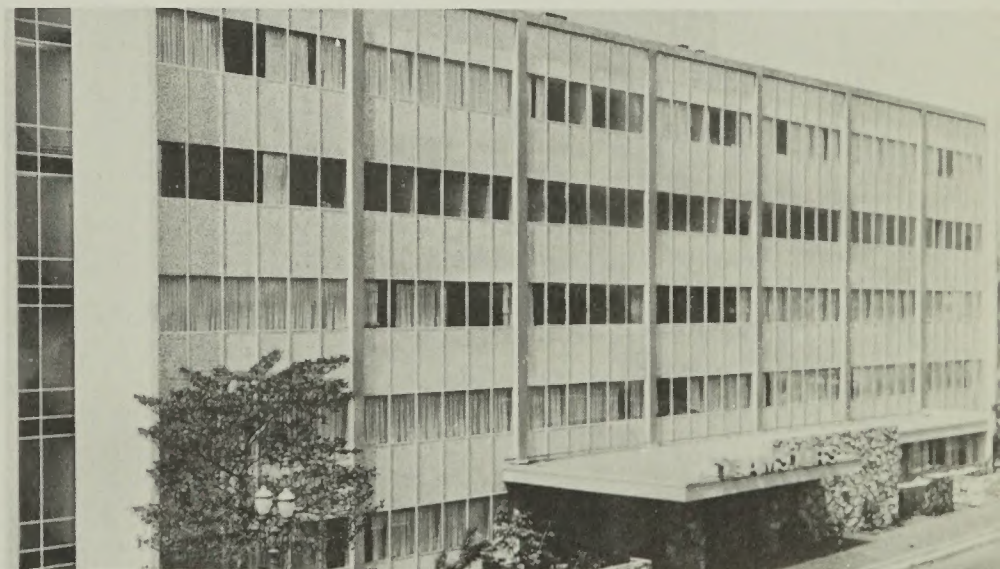
NURSES RESIDENCE, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA
Schmidt, Garden & Erikson, A.I.A., Architects



EXECUTIVE HOUSE, CHICAGO
Milton M. Schwartz & Associates, Inc., Architects



ATLANTA AIRPORT TERMINAL BLDG., ATLANTA, GA.
Robert and Co. Associates, Architects and Engineers



TEAMSTERS UNION BLDG., LOS ANGELES
Walker, Kalionzes & Klingerman, A.I.A., Architects



AIRWAYS HOTEL, CHICAGO
Milton M. Schwartz & Associates, Inc., Architects



RENAULT BLDG., AMSTERDAM, HOLLAND
J. Vanderervan, Architect

Wyle
LABORATORIES
128 MARYLAND ST. • EL SEGUNDO, CALIF.

REPORT NO. 7306

PAGE NO. 3

1.0 REFERENCES

1.1 GRIDWALL COMPANY PURCHASE ORDER NUMBER 6003.

2.0 PURPOSE

2.1 THE PURPOSE OF THIS REPORT IS TO PRESENT THE TEST METHODS USED AND THE RESULTS OBTAINED DURING THE PERFORMANCE OF THE WATER RESISTANCE TEST ON ONE (1) GRIDWALL COMPANY CURTAIN WALL, IN ACCORDANCE WITH REFERENCE 1.1.

3.0 SUMMARY

3.1 ONE (1) GRIDWALL COMPANY CURTAIN WALL WAS SUBJECTED TO THE WATER RESISTANCE TEST AS OUTLINED IN THIS REPORT. THE TEST SPECIMEN COMPLIED SATISFACTORILY WITH THE REQUIREMENTS OF THE WATER RESISTANCE TEST AS NO WATER PENETRATION WAS NOTED.

4.0 DESCRIPTION OF TEST SPECIMEN

4.1 ONE (1) GRIDWALL COMPANY CURTAIN WALL, WITH A NOMINAL SIZE OF 21 FEET BY 21 FEET, WAS SUBMITTED FOR TESTING. THE WALL, AS SHOWN IN PHOTOGRAPH 1, CONTAINED TWO SECTIONS OF GLASS, 6 FEET, 10 INCHES BY 6 FEET, 5 INCHES. THE BALANCE OF THE AREA OF THE WALL WITHIN THE ALUMINUM GRID FRAMING CONSISTED OF INSULATED PORCELAIN PANELS. THE GLASS AND INSULATED PORCELAIN PANELING WERE HELD IN POSITION BY MEANS OF VINYL GASKETING COMPRESSED ON THEIR EXTERIOR AND INTERIOR EDGES WITHIN THE ALUMINUM GRID FRAMING. THE WALL IS A MOCKUP OF THE WALLS TO BE EMPLOYED IN THE CONSTRUCTION OF THE NEW ADDITION TO THE STANDARD FEDERAL SAVINGS AND LOAN ASSOCIATION BUILDING IN LOS ANGELES, CALIFORNIA.

ARCHITECT: WELTON BECKET AND ASSOCIATES
LOS ANGELES, CALIFORNIA

CONTRACTOR: C. L. PECK CONSTRUCTION AND REALTY CO.
LOS ANGELES, CALIFORNIA

Wyle
LABORATORIES
128 MARYLAND ST. • EL SEGUNDO, CALIF.

REPORT NO. 7306

PAGE NO. 4

5.0 TEST EQUIPMENT AND INSTRUMENTATION

5.1 TEST EQUIPMENT

5.1.1 WIND GENERATOR - AIRCRAFT ENGINE IN CONJUNCTION WITH A 60" BLADE.

5.2 INSTRUMENTATION

5.2.1 WIND VELOCITY MEASUREMENT

5.2.1.1 ALNOR VELOMETER - RANGE 0 TO 88 MPH, ACCURACY $\pm 2\%$, TYPE 3002, WYLE LABORATORIES NUMBER 2025.

5.2.2 WATER FLOW RATE MEASUREMENT

5.2.2.1 MEASURED BY TIMING THE FILL RATE OF A 5 GALLON DRUM.

5.3 AMBIENT CONDITIONS

5.3.1 ALL TESTS WERE CONDUCTED AT A PREVAILING AMBIENT CONDITION OF $70 \pm 20^\circ\text{F}$ AND AN ATMOSPHERIC PRESSURE OF 29.5 ± 1.0 INCHES OF MERCURY.

6.0 TEST METHODS AND RESULTS

6.1 WATER RESISTANCE TEST

6.1.1 THE TEST WALL WAS ERECTED AND SEALED BY THE MANUFACTURER. THE TEST WALL WAS ATTACHED TO A BUILDING WHICH PROVIDED SUITABLE SPACE FOR OBSERVING THE PERFORMANCE OF THE TEST WALL FROM ITS INTERIOR SIDE DURING THE TEST. (SEE PHOTOGRAPH 1.) PRIOR TO THE TEST THE WIND GENERATOR WAS CALIBRATED. IT WAS DETERMINED THAT THE AVERAGE VELOCITY OF THE AIR STREAM AT A DISTANCE NINE FEET AWAY FROM THE BLADE EDGE, OVER AN AREA OF APPROXIMATELY 50 SQUARE FEET, WAS 60 MILES PER HOUR. THROUGHOUT THE ENTIRE TEST, THE WIND GENERATOR WAS LOCATED NINE FEET AWAY FROM THE TEST WALL IN ORDER TO SIMULATE THE FORCE OF A 60 MILE PER HOUR WIND UPON THE TEST WALL; ALSO, PRIOR TO THE TEST, THE WATER FLOW RATE WAS ADJUSTED TO SUPPLY A MINIMUM RAIN FALL OF TWO (2) FEET PER HOUR PER SQUARE FOOT OF SURFACE AREA.

Wyle
LABORATORIES
128 MARYLAND ST. • EL SEGUNDO, CALIF.

REPORT NO. 7306

PAGE NO. 5

6.0 TEST METHODS AND RESULTS (CONTINUED)

6.1.2 AN IMPORTANT PHENOMENON WHICH WAS CONSIDERED BEFORE TESTING COMMENCED WAS THE CUSHIONING EFFECT ON THE ONCOMING AIR BY THE AIR AS IT REBOUNDS OFF THE WALL. THE CUSHIONING VOLUME EXTENDED TO A DISTANCE OF APPROXIMATELY ONE FOOT IN FRONT OF THE TEST WALL.

6.1.3 IN ADDITION TO THE SEVERE TEST REQUIREMENTS OF AIR VELOCITY AND RAINFALL, THE TEST WALL SEALS ON BOTH THE INTERIOR AND EXTERIOR SURFACES WERE PUNCTURED IN LENGTHS OF APPROXIMATELY ONE AND ONE-HALF INCHES AND DISLOOGED AT APPROXIMATELY 18 INCH INCREMENTS AS SHOWN IN PHOTOGRAPHS 2, 3, 4 AND 5. THE PUNCTURED AND DISLOOGED VINYL MADE IT POSSIBLE FOR FORCED ENTRY OF WATER, UNDER THE DYNAMIC PRESSURE OF THE AIR VELOCITY, THROUGH THE EXTERIOR SEAL. THIS ENTRY OF WATER, PAST THE EXTERIOR SEAL, WAS VISIBLE FROM THE INTERIOR SIDE OF THE WINDOWS ALTHOUGH THE WATER NEVER PENETRATED THE INTERIOR SEALS.

6.1.4 SINCE THE WIND GENERATOR COULD NOT SUPPLY AN AIRSTREAM THAT WOULD COVER THE ENTIRE WALL AT ONE TIME, THE WALL WAS SUBJECTED TO THE TEST IN SECTIONS OF 50 SQUARE FEET. THE TEST WALL WAS DIVIDED INTO NINE SECTIONS OF 50 SQUARE FEET EACH. SINCE THE ENTIRE AREA IS ONLY APPROXIMATELY 400 SQUARE FEET, AN OVERLAPPING OF SECTIONS WAS ACHIEVED WHICH INSURED THE TESTING OF THE ENTIRE WALL. EACH AREA WAS SUBJECTED TO THE WIND AND RAIN ENVIRONMENT FOR A PERIOD OF 15 MINUTES. DURING THIS PERIOD, ALL THE INTERIOR SURFACES AND LEDGES WERE INSPECTED FOR WATER PENETRATION. NONE WAS NOTED.

7.0 CONCLUSION

7.1 ONE (1) GRIDWALL COMPANY CURTAIN WALL HAS BEEN SUBJECTED TO THE WATER RESISTANCE TEST AS SPECIFIED IN REFERENCE 1.1. THE TEST SPECIMEN COMPLIED SATISFACTORILY WITH THE REQUIREMENTS OF THE WATER RESISTANCE TEST AS NO WATER PENETRATION WAS NOTED.

Wyle
LABORATORIES
128 MARYLAND ST. • EL SEGUNDO, CALIF.

REPORT NO. 7306

PAGE NO. 9

WATER RESISTANCE TEST

